

ABSTRACT OF THE DISCLOSURE

An offshore oil well riser system that compensates for the motions of an associated floating platform comprises a vertical pipe section supported by the floating vessel and extending downward from the vessel substantially perpendicular to the sea floor, and a horizontal pipe section connected to the associated sub-sea well equipment and extending away from the equipment substantially parallel to the sea floor. A angled elbow pipe connects the horizontal pipe to the vertical pipe. At least one of the horizontal and the vertical pipes incorporates a flexing portion comprising a plurality of recurvate sections of pipe connected end-to-end with alternating curvatures. In one embodiment, the central axis of the flexing portion lies in a single plane and takes a sinusoid path. In another embodiment, the central axis of the flexing portion takes a three dimensional helical path.